## IN THE SPECIFICATION

Please insert the following new paragraphs beginning after paragraph [0012]:

Figure 4A shows a top view of one embodiment of an integrated detector.

Figure 4B shows a cross-sectional view of the same integrated detector shown in Figure 4A.

Figure 5A shows a top view of one embodiment of an integrated detector.

Figure 5B shows a cross-sectional view of the same integrated detector shown in Figure 5A.

Please replace the paragraph beginning at paragraph [0019] with the following rewritten paragraph:

[0019] When the sensing element ~~307~~207 is exposed to light 213, some of the light is absorbed. The energy of the absorbed light knocks electrons within the sensing element 207 from the valence band into the conduction band. The resistance of the sensing element 207 is lowered due to the increased number of free carriers. In fact, the resistance is proportional to the amount of light absorbed: the more light that is absorbed by the sensing element 207, the more carriers are knocked free and the lower its resistance will be. Therefore, the power of the light 213 emitted by the light source 215 can be monitored by simply measuring the resistance of the sensing element 207 between the two contacts 209 and 211. To obtain an accurate reading of the resistance of the sensing material, the second contact 211 should be located as far as possible from the first contact ~~207~~209.

Please replace the paragraph beginning at paragraph [0023] with the following rewritten paragraph:

[0023] In an alternative embodiment illustrated in Figures 4A and 4B, the sensing element 207 is incorporated into the diffractive optical element 202 as one of its layers 203. As illustrated in Figures 5A and 5B, t~~T~~he sensing element 207 can be any layer within the diffractive optical element 202, as long as the appropriate contacts are made to that layer for measuring its resistance. The thickness of the sensing element 207, its shape, and other design constraints must be considered, since the sensing element 207 must conform to the

design requirements of the diffractive optical element 202 for proper diffraction of the light beam 213.

Please replace the paragraph beginning at paragraph [0024] with the following rewritten paragraph:

[0024] Furthermore as illustrated in Figures 5A and 5B, more than one layer 203 in the diffractive optical element can be used to detect and monitor the light as well. Multiple adjacent layers can serve as sensing elements 207 by simply omitting any insulating material between them so that the layers are electrically coupled to one another. Multiple non-adjacent layers can also serve as sensing elements by making the appropriate contacts to the desired layers.

Please replace the paragraph beginning at paragraph [0025] with the following rewritten paragraph:

[0025] Figures 3A and 3B show an alternate embodiment made in accordance with the teachings of the present invention. Figure 3A shows a top view of an integrated detector 300. Figure 3B shows a cross-sectional view of the same integrated detector 300 in Figure 3A, taken along the line B-B'. The integrated detector 300 is formed on a substrate 301, which can be similar to substrate 201 shown in Figure 2B, and thus can be made of quartz, glass, silicon, gallium arsenide, or other suitable optically transmissive materials. The integrated detector 300 includes a diffractive optical element 302 and a sensing element 307 that is responsive to incident light. An optional protective oxide layer 305 covers the diffractive optical element 302 and sensing element 307.